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No 1, January 1990

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CONTENTS

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[The following are translations of selected articles in the Russian-language monthly journal SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA published in Moscow by the Institute of U.S. and Canadian Studies of the USSR Academy of Sciences. Refer to the table of contents for a listing of any articles not translated.]

Journal Turns 20 [pp 3-4]	1
Bush Team—Hidden Potential [I.O. Karaganova; pp 13-20]	2
Small Business in United States: Economics and Management [I.K. Lavrovskiy; p 20]	6
Economic Aspects of Space Exploration [G.S. Khozin; pp 21-30]	7
American-Japanese Partnership: In Search of a New Model [A.D. Bogaturov, M.G. Nosov; pp 31-40]	13

ECONOMIC SURVEYS

Engineering Industry and Foreign Trade [A.R. Gorbunov; pp 54-58]	19
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BOOK REVIEWS

Rand Corporation Interpretation of Balance of Power [A.A. Kokoshin; pp 96-98]	23
Articles Not Translated from SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA No 1, January 1990 [pp 1-2]	25
Publication Data	25

USA: Economics, Politics, Ideology

No 1, January 1990

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Journal Turns 20

904K0005A Moscow *SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA* in Russian No 1, Jan 90 (signed to press 22 Dec 89) pp 3-4

[Text] The first issue came out in January 1970. That was two decades ago. This is a long time if we measure it in terms of the life of one generation, but it is a short time if we consider the speed of world events, especially during a period of the establishment of new international relations, the collapse of old ideas, and the rejection of earlier stereotypes and obsolete dogmas.

It is hard to believe how quickly the new thinking blazed a trail for itself and cleared the ruins that had been around for so long and had prevented the development of new ideas about how international affairs should be conducted. Now a struggle is being waged to make the new thinking in intergovernmental relations and the related new approaches irreversible. The mutual confrontation of the superpowers is being counteracted by a mutual desire to replace it with mutual understanding and to move toward mutual effort.

The journal is also being restructured. It is fighting against biased descriptions of public life in the United States and in our country and against the idea that "there is only one correct point of view." It is striving to acquaint readers with a broader range of views, even if it does not agree with them. The journal is a public rostrum, and the days when only the people who knew the rules of play were allowed access to this rostrum are over.

When we leaf through the issues of past years, we notice with chagrin, and sometimes with a smile, the swaggering self-assurance and unshakable conviction with which many articles were written. If they dealt with the economy, it was the conviction that conflicts were constantly growing more pronounced and that social problems were growing more acute. If they dealt with scientific and technical progress, it was the certainty that it would cause the further enslavement of labor by capital. If they dealt with Soviet-American relations, it was a sacred belief in the invariability and consistency of our peaceful policy line. They created the impression that all of the problems in the relations between the two countries were caused by Washington politicians who were either too obtuse or too wily.

We can find all of this, but there was also something else. Even when it was difficult to transcend "permissible"

bounds, the journal published articles and materials presenting a completely objective analysis of the most diverse aspects of life in the United States. Perhaps the most interesting section in our journal in those years was the one entitled "Translations and Digests," in which the words of Americans themselves could be used to say much more than the Soviet author could afford to say.

Everyone admits that we must move forward instead of just marking time. New topics are being discussed—for example, the standard of living of the average American. There have been debates on the policy of peaceful coexistence, on the war in Afghanistan, and on the deployment of the SS-20 missiles. The future of Europe will be discussed in detail soon.

One of our main goals is to give the Soviet and American people a deeper understanding of one another. The despicable "enemy image" is disappearing much more quickly than it came into being. This means that people in the USSR and in the United States were ready and willing to give up their misconceptions. At this time, however, the "enemy image" has not been replaced by a partner image yet. We want to take a comprehensive approach to the topic of the mutual perceptions of the two populations and, in particular, to give the Soviet reader some idea of American Sovietology. Learning what the Americans think of us will give us a better understanding of ourselves, especially if we discard our prejudices and realize that they are not writing their works for the purpose of denigrating our order, but for the purpose of gaining a better understanding of the country with which they share the responsibility for the future of the world.

We intend to publish much broader, deeper, and—what is most important—impartial discussions of the American experience in economics, science and technology, politics, and the social sphere.

The state of the U.S. economy is assigned a prominent place in the journal. The editors proceed from the readers' interest in these matters and from the heated debates over the relative reduction of the U.S. share of world production and trade, the fierce competition it is facing, particularly from Japan, its lower growth rate of labor productivity, the negative developments in the struggle for product quality, etc.

It appears that the colossus is having trouble standing firm and might be getting weak in the knees, but...from any vantage point whatsoever, the U.S. economy as a whole is still the leader in the capitalist world. The country is seeking and finding new forms of production organization, management, and marketing, discovering new fields of science and technology, and making up for failures in one sphere of competition with breakthroughs in another, more promising field. We are particularly interested in how it does this, what kind of reserves it finds, and what kind of mechanisms it creates for the breakthroughs.

The American democratic experience is of equal interest to us: the work of the Congress and the interrelations of central and local government bodies. How can two parties which are so similar from the class standpoint keep the political process under control and absorb and direct so many different social demands and movements? How does this change the parties themselves and their functions in the society?

And what about the experience of Canada—our neighbor across the North Pole, a country similar to the USSR in its climatic and natural conditions, a country finding constructive solutions to its ethnic problems and actively promoting the improvement of East-West relations?

These are only a few of the questions we will try to answer in the near future.

We are striving for higher circulation figures. After reaching a peak in the late 1970's, the number of published copies has been declining in recent years. Of course, there is the paper shortage, the indifference of Soyuzpechat, the channel through which the readers receive our journal, and the restriction of retail sales, and sometimes even of subscriptions—especially in small cities (we have heard some reports to this effect). We hope that our difficulties are not connected with a loss of interest in the journal (we have some evidence to the contrary in the rise in overseas subscriptions). It is more likely that today's reader is more interested in our own domestic problems and in the Russian literature which has been returned to him. This is quite natural: Domestic problems were "simply non-existent" for too long. But the interest in international events and in such countries as the United States and Canada is not flagging. We know this from the letters we receive, which now include "angry" letters demanding the more energetic and resolute perestroika of the journal. We are taking these opinions into consideration, but we cannot forget that this is an academic journal and that it cannot indulge in sensationalism. And although the journal is sociopolitical as well as scientific, its main feature is its connection with Soviet studies of American affairs and its reflection of the level of these studies.

The editors are hoping for broader participation in the journal by Soviet scholars of American affairs and their overseas partners and by professionals with an interest in U.S. and Canadian affairs. We need new writers capable of analyzing American and Canadian issues and world events in the spirit of the new thinking. The mere mention of the "new spirit" will not be enough. This will call for the skill to analyze current events impartially, even when they are the opposite of what we want. We hope we will be able to establish closer contact with a new generation of readers in the future. We invite your criticism and your constructive suggestions and advice.

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Bush Team—Hidden Potential

904K0005B Moscow SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA in Russian No 1, Jan 90 (signed to press 22 Dec 89) pp 13-20

[Article by Irina Olegovna Karaganova, candidate of historical sciences and scientific associate at Institute of U.S. and Canadian Studies]

[Text] It has been a year since Republican George Bush took office as President in Washington in January 1989 as a result of the last election. A change of presidents leads to the personnel changes which do much to define the political image of the new administration. After all, the resolution of acute domestic and foreign policy problems depends largely on the kind of advisers a newly elected president chooses, problems such as, in this case, the budget deficit, the enhancement of competitiveness in the world market, and the search for new relationships with allies, with the countries of Eastern Europe, and with the USSR—relationships which will meet all of the requirements of rapidly changing political reality. Therefore, the administration's personnel policy is the first indicator of possible changes in the future.

George Bush did not keep anyone in suspense. One report after another came from Washington with regard to appointments to key administration positions. The speed, coordination, and forethought with which the administration was formed within the first weeks following the inauguration surprised many people. The fortuitous nature of Bush's appointments was appreciated by the members of the international business and political groups who initially doubted his ability to emerge so quickly from President Reagan's shadow.¹

In Washington itself, however, the appointment process did not come as a surprise to anyone. In the last year or year and a half before Reagan left office, fundamental changes were made in the personnel of the previous (still officially Reagan's) administration. Something like a silent personnel revolution was carried out without any public announcements or declarations, and it effectively changed the image of the departing administration. It was joined by a few people with close personal or professional ties to George Bush, who was then the vice president. These changes were made on his initiative and on the initiative of his influential allies in the moderate and centrist wings of the Republican Party. It is clear from even a cursory look at the upper echelons of the administration in 1987 and 1988 that it was different in many respects from the administrations Reagan had formed in, for instance, 1980 or 1984.

In this way, the politicians chosen by Ronald Reagan, most of whom professed conservative views, had little experience in international affairs, and had no knowledge whatsoever of the corridors of power in Washington in the beginning, were replaced by individuals of a

completely different type. It was then that the administration was joined by the key members of today's Bush team, such competent and experienced people with extensive political ties as Nicholas Brady, Richard Thornburgh, Colin Powell, and William Webster.

Even before Bush took office, these politicians already made up the new controlling nucleus in the White House along with G. Shultz, F. Carlucci, J. Baker, and others. The main reasons for the "castling" maneuver were the alarming situation in the stock exchange and the "Iran-contra" scandal. These events were so serious that they permitted the immediate renewal of the administration: There was an immediate need for competent and level-headed professionals capable of taking effective action in this atmosphere of crisis. The need for qualitative changes in the image of the executive branch in Washington had been apparent for a long time, and the best evidence of the need for change was the speed and ease with which the new wave of politicians took over the capital, bringing their assistants, advisers, and agents with them.

They had something in common: Ideological preferences per se had been of only secondary importance to them throughout their political careers. "Pragmatism and professionalism"—according to American observers, this is the slogan the previous administration could have inscribed on its banners at the time of its departure. During the last months of that administration, the new nucleus of the Washington leadership essentially took control of all of the policymaking activities of the President, especially in the foreign policy sphere.

This was actually the first time since Reagan's inauguration that there was a fairly monolithic team of experienced and moderate individuals distinguished by flexibility, political experience, a broad outlook, and diplomatic skills.² Washington was full of "computer whiz kids" in their forties, the kind of young men who, according to the apt description of journalists, felt more at home with a computer than with a ball-point pen.

It appeared that as the previous administration's term came to an end, extensive and thorough preparations were already being made to hand the executive branch over to a group of more moderate and more capable politicians.

Even if the last election had put the Democratic candidate in the White House instead of George Bush, the now clear and general tendency to conduct what has been called a de-ideologized policy probably would have prevailed in any case. By this time America would have had an administration which would probably be described best as a "citadel of pragmatists," and firm pragmatists, regardless of their age, gender, previous experience, party affiliations, or personality and temperament.

Bush consistently chose people inclined to seek a consensus, relying most heavily on moderate and centrist forces. Even such uncommon decisions as the appointments of Jack Kemp as secretary of housing and urban

development or John Sununu as White House chief of staff did not change the general picture (both of these men, politicians with a reputation as conservatives, received their appointments to "appease" the right wing, in something like a conciliatory gesture). In the final analysis, they did not justify the conservative camp's hopes and have done little in the past year to promote the embodiment of the rightwing agenda in administration policy.

The climate in Washington is being set by completely different political forces. Secretary of State James Baker and his deputy Lawrence Eagleburger,³ National Security Adviser Brent Scowcroft and his deputy Robert Gates and assistant Peter Rodman, and Director Richard Darman of the Office of Management and Budget are veterans of many administrations and close friends of the new President. They and others like them make up the "centrist gold reserve" of the U.S. political elite and have now taken the helm of government.

The changes in the upper echelons of government, however, are only part of the massive projected reorganization. The accomplishment of genuine changes will require a whole army of rank-and-file employees. It is no coincidence that one of the main functions of all officials in recent has consisted in the staffing of their agencies.

In contrast to the years of the Reagan administration, when the most important element of the appointment process, particularly in the foreign policy establishment, the intelligence community, and judicial bodies, was the verification of "ideological loyalty," now, in the words of Bush's advisers, no one is trying to detect the deep-seated convictions of potential candidates. Although preference is given to people with a reputation as centrists, the main requirement is the conscientious performance of assigned duties. The credo of the ideal middle-level official in the Washington administration today is not so much the imposition of some kind of ideological changes on the administration, as the precise implementation of plans and programs.

There has been a perceptible rise in the educational and professional levels of officials and a general decrease in their age. As a result of financial difficulties in some departments (including the Pentagon, the CIA, and the FBI), the total number of employees is being reduced, but this certainly does not mean that the agencies are weaker. Two or three former workers are being replaced by a single individual, but this individual is a highly paid and highly professional specialist.

The Defense Department illustrates how deep and fundamental the differences are between the personnel policy of the present administration and the just recent policy of the previous administration. General Colin Powell, for example, whom the President chose to serve as the new chairman of the Joint Chiefs of Staff, is not only an experienced and level-headed soldier, but is also known primarily as a flexible and capable politician in the previous administration, distinguished by excellent

organizational skills. The general, just as other members of the JCS—L. Welch, C. Vuono, and A. Gray—served in Vietnam. Their thinking is influenced by their common painful memories. They are members of the generation of officers who now occupy command positions and whose personal experience urges them to display prudence in the use of military force. The secretaries of the different branches of the U.S. Armed Forces Bush appointed this August (Michael Stone, Lawrence Garrett, and Donald Rice) all have a higher civilian education in addition to their military education, all attended prestigious universities, like Yale, all have experience working in high-level civilian positions, and all belong to the political elite of Washington. As a former executive of the RAND Corporation, the leading non-governmental research organization in the United States, D. Rice has published several works on national security. They now have many more highly qualified civilians under their command. This is beginning to undermine the conservative nucleus which took shape in the Pentagon in the 1980's.

The personnel changes in government agencies have already resulted in political changes. When former General Motors executive Donald Atwood became Defense Secretary R. Cheney's deputy,⁴ for example, he proposed a program, based on the experience of his corporation, for the technical modernization of the Pentagon and the elevation of the professional level of Pentagon personnel. The proposed changes outlined in a report by Cheney and Atwood in August 1989 are expected to heighten the department's efficiency dramatically and to partially alleviate the mistrust that exists today between the Pentagon, the Congress, and the defense industry as a result of the military procurement scandals of the last few years. The present military leadership plans to practice strict economy within the department and the equally strict choice of partners. According to Atwood, the Pentagon "does not need all of the companies we have now.... Maybe the strong will survive and the weak will perish, but this is such a natural process."

Guided by the common sense of a financier, Atwood has been almost ostentatious in sweeping aside all tactical considerations in Washington politics. This would have been unthinkable in Reagan's time and before. We can find sufficient evidence of this in the sad experience of H. Brown, President Carter's secretary of defense, who tried, and failed, to institute stricter control over military spending and the competence of his employees. Soon after he left the department, he declared that fundamental reform was absolutely impossible in the Pentagon. Atwood plans to prove that it is possible to some extent.

The same emphasis on competence was also clear in recent months in the selection of personnel for the foreign policy establishment, particularly agencies dealing with the Soviet Union and Eastern Europe. Many administration officials have spent their whole career doing work connected with the Soviet Union: When the previously mentioned R. Gates was working for the CIA, he defended a dissertation on Soviet history

in 1974; in 1979 he was put in charge of the collection and analysis of information about the Soviet Union. Richard Kerr, appointed deputy director of the CIA, has been analyzing politico-military issues connected with the USSR since the 1960's. In particular, he was in charge of the interpretation of the pictures of the USSR taken with reconnaissance satellites. These high-level officials have brought people with similar experience into their new offices. The number of experts in Sovietology in this administration is much higher than in the Ford, Carter, and Reagan administrations.

The administration has actively recruited specialists with practical experience in the drafting of Soviet-American treaties, especially SALT- I and SALT-II (former members of the Carter administration), and those who participated directly in negotiations and who know "how to deal with the Russians." This also reflects the important tendency of the present administration to choose experts and advisers on a bipartisan basis. The Republicans who now occupy the White House and the Democrats in the opposition party have displayed an equal desire to map out a common policy line. It was no coincidence, for example, that B. Scowcroft and L. Eagleburger planned to hire experts who had once served on the staffs of Democrats—Congressman L. Aspin, Senator A. Cranston, and others. An equally telling detail is the invitation of Democratic lieutenant governors and mayors to work in the foreign policy establishment.

It appears that both cases were more than just demonstrative gestures to confirm the bipartisan policy line George Bush had announced in his first speeches after the inauguration. This was a reflection of the Republican administration's genuine wish to integrate all existing political experience, regardless of party affiliations.

The conservatives in the Republican Party were stunned by the administration's decision to make Bernard Aronson the assistant secretary of state for inter-American affairs. He is an advocate of the so-called pragmatic approach, envisaging the diplomatic resolution of the problems in Nicaragua, Panama, and other countries. Aronson, a Democrat, was once one of the closest advisers of W. Mondale and J. Carter, and in the beginning of the 1980's he headed the national strategy council of the Democratic Party.⁵

Although there have been continuous and fundamental disagreements between him and other members of the administration (for example, Everett Briggs, the man in charge of Latin American policy in the NSC and an advocate of the traditional conservative approach), the predictions of most observers, paradoxically, have been optimistic. In their opinion, the clash of almost polar opinions in the approach to a problem as contradictory as the United States' relationship with its Latin American neighbors can promote the consideration of all of the nuances of the matter and contribute to its constructive resolution. People on Capitol Hill also think highly of Aronson, primarily because of his willingness to consult Congress.

It appears that Bush and his closest advisers were able in several cases to discover a productive approach in which highly professional specialists on the highest and middle levels in the administration are capable of making conflicting, and sometimes mutually exclusive, but constructive suggestions.⁶ In the atmosphere of a relatively stable and unified leadership at the top and in the absence of serious domestic and foreign policy crises, Bush's tactic has earned his administration definite dividends to date. The administration is distinguished by a high degree of cooperation among the men closest to the President. This is in sharp contrast to the Reagan administration, where, for example, the undisguised hostility between Secretary of Defense C. Weinberger and Secretary of State G. Shultz led to discord and confrontations between officials on all levels.

Experienced observers in Washington have commented on the perceptible growth of the stability, authority, and power of the administration. Incidentally, these comments were corroborated by another of Bush's moves, which initially surprised many people but eventually proved to be the right move.

He did not concentrate his best friends and confidants in a fist and leave them on the White House staff. Instead, he distributed them throughout the cabinet. After a few months, it was clear that this had expanded Bush's power base. His supporters believe that he did this deliberately, in the belief that the concentration of all power in a single place would make the White House staff too unwieldy and, therefore, frequently ineffective.

By delegating new powers to the heads of agencies and appearing to disperse authority, he actually strengthened it perceptibly. The institution of executive authority on the federal level now displays a tendency toward greater stability.

Another result, a side-effect but perhaps an equally important one, of this dispersion of his people among key positions in the executive departments was the rapid creation of a second, extensive, and seemingly duplicate network made up of their deputies and assistants. After these deputies had been selected and placed by Bush's people, they immediately formed an extremely large group of like-minded people who were ready and willing to carry out the President's policies.

Like many other features of the new personnel strategy in Washington, this has been particularly apparent in the foreign policy sphere. In addition to the main nucleus—J. Baker, R. Cheney, B. Scowcroft, and C. Powell—something known as the committee of deputies is playing an equally important role in policymaking. Its chairman is Deputy National Security Adviser R. Gates, and its meetings are usually attended by under secretaries of state Robert Kimmitt and Reginald Bartholomew, Under Secretary of Defense Paul Wolfowitz, Deputy CIA Director R. Kerr, and a representative from the Joint Chiefs of Staff. These people collate the documents drawn up by all of the foreign policy agencies. A final draft is then polished up

and submitted to the President, so that he can use it as a basis for making the appropriate decision.

The result has been something like two nuclei of politicians who supplement and adroitly replace one another. It is rare that such a precisely operating mechanism is formed within the first year of a presidency.

It might seem that the selection and placement of personnel in Washington today would guarantee the present administration's success. This should also be promoted by the relatively calm domestic political situation. Last year clearly demonstrated the desire of American political groups to consolidate the forces belonging to the moderate, centrist wings of both parties. This situation carries the potential for the active pursuit of a constructive domestic and foreign policy line acceptable to both parties.

In spite of this, the new administration does not appear to have had perceptible success or to have made any noticeable political "breakthroughs" in any area. The reason is not the absence of competent officials or political allies, but the shortage of new ideas and the lack of a unified and realistic program of action. This precludes the resolution of many urgent problems. Many agree, for example, that it is objectively impossible to propose any kind of balanced and acceptable program of budget deficit reduction that would win widespread support today.

It is not that Bush and his associates have not made a serious effort to break out of this vicious circle. The consideration of scientific assessments and professional appraisals prior to the making of decisions has become the rule in today's White House. The role and place of science per se have been enhanced dramatically.

The first indication of this could have been the sound decision to appoint Allan Bromley the President's scientific adviser. This professor from Yale University is an authoritative and respected member of the scientific community. In the past the role of presidential scientific advisers differed widely. The advisers of Presidents Eisenhower and Kennedy, for example, had a great deal of influence, but Bromley's immediate predecessors, advisers to President Reagan, were not well-known scientists and did not have any authority.

To underscore the importance he plans to assign to scientific research, Bush gave Bromley the title of assistant for science and technology policy (which his immediate predecessor did not have) when he announced the new appointment. Bromley is one of the world's leading experts on nuclear physics, accelerators, and computer analysis and fits all of today's scientific requirements.

Bush does not intend, however, to confine himself to moves of this kind, which are symbolic to a certain extent.

From the very beginning, his administration has displayed an interest in virtually all of the authoritative and respected research organizations, the so-called "think tanks." This surprised observers at first, because Reagan

ignored these centers of genuinely international renown almost completely. They include, for example, the famous and prestigious Harvard University, with its traditionally liberal reputation. It immediately came under the scrutiny of Bush and his team. Incidentally, several members of the administration have studied, taught, or done research at Harvard: Michael Boskin, Bush's chief economic adviser, R. Thornburgh, R. Darman, and several others.

This interest in liberal centers is probably just one part of the sweeping and purposeful campaign for the "ideological replenishment" of the Bush team. At the same time, the administration is not ignoring a center with as much recognition and trust in conservative circles as the Heritage Foundation.

According to Edwin Feulner, one of the administrators of this center, his organization has literally flooded the administration with political reports, documents, and analyses. Furthermore, with the active assistance of conservative Vice-President Dan Quayle, Bush has been able to create the impression that Heritage Foundation scientists have even easier access to his administration than to Reagan's.

Observers feel that the carefully planned and balanced enlistment of the services of all prestigious schools and currents by the President and his associates might be a guarantee of future success.

The administration's only achievement to date, however, has been the absence of evident major errors, which is unique for a new president and a new administration. Bush still has at least 3 years to go, however, and we must not forget that many political leaders have been surrounded by people with even greater potential for public administration. Now everything will depend on the President and his administration.

Footnotes

1. It is significant that the speed and efficiency with which the appointments were made in the first months of the administration later declined. Many important positions remained vacant for the whole first year. According to a Democratic Party research group, only 172 of the 394 executive positions in the administration had been filled by September 1989 (156 by officials appointed by President Bush and approved by Congress, and 16 by those who had worked for the Reagan administration and who had been asked to stay on by the present one). As for the rest, 60 new appointments are awaiting Senate confirmation, 2 nominees were rejected by the Senate, and no one has been nominated for the remaining 160 positions yet. Some experts are even talking about a violation of the Vacancy Act passed 100 years ago. By the terms of this act, people occupying vacant positions temporarily can make decisions with legal force only in the first 120 days. One of the reasons for this situation is Bush's hope of making genuinely radical qualitative changes in the Washington bureaucracy. The selection of

people of a truly new type requires much more time than the routine reshuffling of officials at the start of any new administration.

2. The breadth and depth of those processes are confirmed by many indirect data. For example, there is the fact that when F. Carlucci came to the Pentagon, around a year before the end of Reagan's term in office, he started work on a whole set of long-range programs for the radical reform of the military establishment. Furthermore, when R. Thornburgh joined the administration even later, he was not satisfied with half-measures either, but immediately initiated the staff and structural reorganization of the Department of Justice he had inherited from E. Meese—the odious ultra-conservative Reagan administration official who had to resign after being accused of corruption. It is indicative that Thornburgh officially announced that it would take 2 years for him to carry out many of his plans, and the response to this was favorable in Congress as well as in the White House itself.

3. For more about State Department appointments, see SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1989, No 8, pp 90-93—Ed.

4. For more about R. Cheney, see SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1989, No 7, pp 98-100—Ed.

5. Bush's bipartisan approach to administration appointments evoked the intense displeasure of conservatives. Such pillars of the conservative movement as R. Viguerie or B. Bozell, president of the National Conservative Political Action Committee, were seriously troubled, judging by their statements, by the President's strategic line and personnel policy and repeatedly expressed this concern. At this point, however, Bush regards his strained relationship with the party right wing as an acceptable and necessary evil.

6. A close look at the division of the views of administration members on domestic and foreign policy issues indicates that it no longer corresponds to the traditional division into conservative and liberal approaches, on the basis of which the political outlook of officials was usually analyzed just 5 or 10 years ago. The America of the late 1980's has been distinguished by slow but profound shifts at every point of the political spectrum. This, however, is a separate topic.

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Small Business in United States: Economics and Management

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[Report by I.K. Lavrovskiy on book "Melkiye firmy v SShA: ekonomika i upravleniye" [Small Business in the United States: Economics and Management] by I.I. Razumnova, Moscow, Nauka, 1989, 255 pages]

[Text] The publication of this work might be called particularly timely. There is an urgent need for analytical works aiding in the constructive transfer of foreign organizational methods to our own country. Small business should become an important factor in USSR economics as well. This sphere could include not only the individual-cooperative sector, but also the still comparatively small number of independent enterprises—leases and joint ventures (with the participation of foreign partners). Virtually all sections of the book contain something useful for the establishment of the new economic mechanism in our country—from the analysis of general tendencies in the development of small firms to the specific problems of their management. Two important aspects of I.I. Razumnova's study provide a good example of this. The work contains a detailed discussion of the franchising system—i.e., contract relationships between large and small producers. The author points out the fact that the enterprises operating on this basis produce 15 percent of the American GNP. It is interesting that the cooperative movement in the USSR has spontaneously taken the same direction.

Contract commitments to the state sector represent most of the turnover of cooperative enterprises. This is the reason for the obvious need to strengthen and continue institutionalizing the contract relationships between large and small enterprises in our country with the use of domestic and foreign experience and work methods. The incorporation of franchises in the sales and procurement network, the production of components, aftermarket services, repairs, and other fields seems quite promising.

American government agencies regard the development of small business as one of the most important economic tendencies and effectively assist and support it. The 1986 tax reform reduced the maximum tax rate of non-corporate enterprises from 50 to 28 percent of their net income. The participation of small firms in the work on government contracts for goods and services, including defense contracts, is being encouraged. Government support of the innovative activity of small enterprises plays a special role. The author of this work describes the organizational mechanism of government assistance and the transfer of technologies developed by small enterprises.

In view of the relevance of the topics the author discusses and in view of the high scientific level of the work, it has a chance of becoming the manual of the large new group of Soviet entrepreneurs.

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Economic Aspects of Space Exploration

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[Article by Grigoriy Sergeyevich Khozin, doctor of historical sciences and docent of School of Philosophy, Moscow State University imeni M.V. Lomonosov; words in boldface as published]

[Text] This article will analyze the economic aspects of world space exploration, although it will concentrate on the U.S. and USSR space programs. There are several objective reasons for this. First of all, in the more than three decades of the development of the U.S. space program, the extremely detailed information in world scientific literature has provided a fairly complete description of its various aspects. Second, many foreign works on various aspects of space exploration have undertaken more or less thorough comparative analyses of the U.S. and USSR space programs. Finally, the real tendencies the new political thinking has introduced into international relations, namely the tendencies toward a higher level of cooperation and integration and toward joint activity by states based on a balance of interests, necessitate a more precise understanding of the direct and indirect benefits of national and international projects and the level of their ecological and social risk. If space projects are less beneficial than many social or ecological programs, we should pay serious attention to the statements of some scientists, politicians, and public spokesmen about the need to cut funds for space programs and begin discussing alternative projects to be financed with the funds made available by these cuts.

The author does not advocate cuts in allocations for the Soviet space program, but he does actively support its efficient reorganization and its removal from the custody of exclusive departmental and scientific groups and the bureaucratic elite. Once we understand the essential purpose of activity in space, the scales of its influence on society, the distinctive features of its economic expediency, and its stimulating effect on many facets of government operations, we can begin taking resolute steps to restructure our own space program and take more effective action in world markets for space equipment and the services rendered with the aid of space systems.

Some Thoughts About Statistics

The study and use of space is an extremely expensive undertaking, and for this reason only a few countries—the USSR, the United States, France, Japan, the PRC, India, and Israel—have been able to carry out separate national space programs entailing the development of their own boosters and spacecraft.

A comparison of different data from foreign sources on state expenditures on space activity since the time the Soviet Union launched the first artificial satellite in history suggests that world expenditures on the study and use of space between 1957 and 1989 amounted to around 570-600 billion dollars. This is equivalent to around 4.5 percent of the gross world product in 1989 (it exceeded 13 trillion dollars), whereas world military expenditures since the end of World War II amount to around 16 trillion dollars (in 1984 prices).¹

Foreign experts estimate that the U.S. and USSR space programs have cost around 520-540 billion dollars (in current prices). The expenditures of the "rest of the

world"—the capitalist, developing, and socialist countries carrying out their own space programs or participating in the space activities of other states and international organizations—are equivalent to only one-tenth of the combined expenditures of the USSR and the United States and do not exceed 50-60 billion dollars. The space expenditures of the states carrying out the most dynamic national space programs are presented in Table 1.

Table 1.
Expenditures on Space in Second Half of 1980's

States	Percentage of GNP	Millions of dollars
	1986-1987	
United States	0.5	23,600
USSR	1.5-2.0	40,000
India	0.14	269
France	0.115	975
Italy	0.048	537
Belgium	0.045	72
FRG	0.045	558
Japan	0.045	over 1,000
Sweden	0.038	51
Canada	0.035	110
Great Britain	0.035	206

Calculated on the basis of data in SPACE POLICY, August 1988, pp 245-246; "Soviet Space Programs: 1981-1987," Washington, April 1989, p 513; "United States and Soviet Progress in Space," Washington, 1980, p 19

The procedure for the calculation of USSR space expenditures in U.S. dollars is not explained in these documents.

American experts believe that the U.S. space program is one of the most resource-intensive fields of activity by the government and private business. In terms of total capital investments, in terms of the level of technical development, and in terms of employment at the height of the work on the Apollo project, the U.S. space program is surpassed only by projects entailing the development and production of new weapons systems.

As of the middle of 1989, total expenditures on the space program since the time it began to be carried out in 1958 were close to 300 billion dollars (in current prices). This sum includes the funds for the development of the following main areas of American space exploration: around 80 billion dollars for manned flights (the Apollo, Skylab, and Space Shuttle projects and the Freedom orbiting platform); around 120 billion for the development and operation of military space equipment, including the SDI program; around 60 billion for applied civilian systems (communications, navigation, meteorology, the study of natural resources, geodesy, etc.). The remaining sum of 40 billion dollars includes expenditures on the study of the moon and the planets, other scientific experiments in space, the improvement and operation of terrestrial observation and communication

systems, and research centers. The total figure (300 billion) does not include expenditures on the "venture" R & D projects of large corporations, which are usually military applied projects. The total cost of these space projects, conducted at different times on the initiative of private business, amounts to hundreds of millions of dollars but is not included in the federal budget.

In the second half of the 1960's the United States was spending around 1 percent of the gross national product (GNP) on space, or around 5 percent of total annual federal budget allocations.² After the Apollo project entered its final stage, allocations for civilian space projects decreased, and employment in the aerospace industry and research laboratories declined. In the middle of the 1980's federal budget allocations for space projects in absolute figures were perceptibly higher than the figures for the 1960's and 1970's. In the mid-1980's the federal government was allocating around 25 billion dollars for space exploration each year. This figure consists of allocations for NASA (around 7 billion dollars), the space projects of the Defense Department, mainly carried out by the U.S. Air Force (around 10-12 billion), and the separate allocations for the "Strategic Defense Initiative," which acquired the status of a separate organization and a separate budget item (expenditures on the SDI have averaged 3-4 billion dollars a year in the last 3 years).³ The departments of the interior, commerce, agriculture, and energy receive negligible sums in comparison with NASA and the Defense Department—around 2 percent of total federal budget allocations for space in all. These are used primarily for the operation of applied space systems for the study of natural resources, meteorological systems, etc.⁴

According to many American experts, U.S. space expenditures in the second half of the 1980's were equivalent to around 0.5 percent of the GNP, which exceeded 5 trillion dollars in the first quarter of 1989. This points up one significant fact: Whereas allocations for NASA civilian projects exceeded allocations for Defense Department space projects until the middle of the 1970's, the military establishment has been receiving much more money for space than civilian agencies in the 1980's. Objective researchers believe that at least 25 percent of NASA's expenditures can be categorized as military space expenditures.⁵

The data and estimates of foreign experts suggest that American space exploration is still not free of its militarist emphasis, and this naturally dims the prospects for extensive international cooperation in space. We also cannot ignore the fact that the recommendations of the Heritage Foundation, a research organization with close ties to the Republican administration, are clearly inconsistent with the realities and tendencies of the present day. The Bush administration has been advised to "issue a directive proclaiming a comprehensive U.S. strategy in space, defining the use of space for civilian and military—i.e., offensive and defensive—purposes."⁶ The main changes that must be made in the U.S. space program and corresponding changes in funding priorities

are recommended in a section entitled "Initiatives for 1989": "The National Space Council (established by President Bush's executive order of 20 April 1989—G.Kh.) should declare the weapons systems command of the U.S. Air Force the only agency in charge of U.S. government space launches. Other federal agencies, such as NASA, wanting to deliver payloads into space could pay to use the launch systems at the disposal of private business or the U.S. Air Force."⁷ If the Republican administration plans to take this advice, no increase in the profitability and economic effectiveness of world space exploration should be anticipated.

In the middle of the 1980's at least 250,000 people were working on civilian and military space projects in the United States. Most of them were scientists and engineers specializing in extremely narrow fields of basic and applied sciences, highly skilled workers, and technical and managerial personnel. Around 150,000 were working on NASA projects (including the 22,000 people on the staff of this federal agency). For the sake of comparison, in the middle of the 1960's, at the height of the work on the Apollo project, around 450,000 people were working on the U.S. space program.

In words by foreign experts, we usually find the statement that the USSR spends "just as much as the United States or a little more" on space.⁸ Most of the estimates differ substantially from the figures cited by Chairman of the USSR Council of Ministers N.I. Ryzhkov in his report to the Congress of People's Deputies—6.9 billion rubles.⁹

During different stages in the development of Soviet space exploration, Western experts have come up with different estimates of Soviet expenditures in absolute figures and in percentages of the GNP. At the end of the 1970's, for example, they presented this estimate: "Because the Soviet Union launches larger (total) payloads, we can assume that its space program is of at least the same scale as ours was at its peak, and perhaps even greater. Their GNP is estimated at half of the American GNP, and for this reason the USSR probably spends around 2 percent of the GNP on space."¹⁰ Citing a report of the Senate Committee on Commerce, THE NEW YORK TIMES presented these estimates of Soviet expenditures: "In 1980 the USSR spent from 14 billion to 28 billion dollars on space projects, which was far in excess of the total American space budget of 9 billion dollars."¹¹ Here the newspaper obviously took liberties with the facts when it left at least 10 billion dollars in space expenditures by the military establishment and the U.S. intelligence community out of the "total American space budget." Here is an excerpt from the latest American congressional document: "In 1988 the cost of U.S. activity in space was estimated at 26.4 billion dollars. Judging by the scant information published by U.S. intelligence agencies in the 1980's and by common sense, we can assume that the Soviet Union spent 1.5 times as much on space as the United States. This means that USSR expenditures on space amounted to around 40 billion dollars in 1987."¹² According to experts from the

U.S. Congress' Office of Technology Assessment, around 600,000 people were working on the Soviet space program in the middle of the 1980's.¹³

The striking differences between the estimates of Soviet space expenditures in official Soviet documents and American publications could mislead the uninitiated reader. We will try to explain the reasons for the differences in the estimates of expenditures on the USSR and U.S. space programs, which are similar to one another in the main quantitative indicators (scales, employment, duration, etc.). First of all, the American side has to "defend" the upper limit of its own space expenditures in every way possible. It is precisely for this reason that the economic indicators of Soviet space exploration have been described, often in the most emphatic terms, as "equal to or somewhat higher than" U.S. indicators. Second, under the conditions of centralized planning and state-set prices of space products (and state-set salaries of workers, engineers, and scientists) without consideration for market conditions, and these are having an increasingly obvious effect on prices in world markets for space goods and services, the financial indicators of the Soviet space program might be much lower than American indicators. Finally, there is reason to believe that the higher prices of the high technology products developed within the framework of the U.S. space program are set with a view to its stimulating effect on the national economy and with a view to the procedures and criteria of profitability discussed in the next section of this article.

An examination of the statistics of world space exploration in the last few decades points up an important fact directly connected with the profitability of investments in Soviet space exploration. We should first take a look at the statistics of annual launches in the USSR and the United States in the first three decades of the space age. Until the second half of the 1960's the number of annual launches of payloads into space in the USSR and the United States rose at almost the same rate and reached 60-70 a year in 1967 and 1968. Then the USSR continued to increase the number of payloads launched into space in accordance with plans and was launching 100-110 spacecraft a year by the middle of the 1980's. There was an opposite tendency in the United States: By the beginning of the 1970's, around 30 objects were being launched into space each year, and in the middle of the 1980's the figure was under 20.¹⁴ A comparison of these statistics indicates that on-board equipment is being used more efficiently on American satellites, that this equipment has a longer service life and is more reliable, and that the channels of space-earth communications transmit more information of value to the political leadership and consumers among federal and local agencies, private business, and foreign clients. For this reason, it is a valid assumption that the functions performed efficiently by a single U.S. space vehicle are being performed by several of ours.

In our opinion, there is every reason to believe that one of the main qualitative features of the technical potential

of American space exploration is the high level of scientific and informational input and miniaturization. The result is the much more efficient use of each kilogram of payload lofted into space and each cubic centimeter of capacity, and a greater variety of information, not only the information collected from space, but also the information offered to clients in the most diverse fields in the United States and abroad. Of course, there are accidents and malfunctions on American spacecraft, manned and unmanned, but the funds invested in the space program are used on a broader scale—on the scale of the American economy and world markets—and the required direct and indirect economic return on investments is constantly rising.

The profitability of investments in Soviet space exploration is still low in comparison with the space programs of the United States, the West European countries, and Japan. The absence of a statewide (supra-ministerial) mechanism of coordination and economic stimulation complicates the transfer of innovations from the space program to other branches of the national economy and the service sphere and dims the prospects for participation in foreign economic operations by the space industry. In light of this, we might wonder whether the Soviet Union can compete successfully with the United States in the markets for space services at the declared level of expenditures on space (around 7 billion rubles a year), without taking the necessary measures to perfect its space equipment. The same question would arise in the event of the organization of space systems, global and regional, requiring the combined spacecraft and terrestrial services of the USSR, the United States, and other developed capitalist countries. The low level of scientific input and reliability (in comparison with the one achieved in the United States, Japan, and other countries) might seriously impede our country's progression toward cooperation and integration in space and other major fields of scientific and technical progress.

Elements of the Profitability of Investments in Space Exploration

Political leaders and the public in many states are displaying more and more interest in the use of scientific and technical achievements, including those in the military sphere, to alleviate the severity of global and regional problems and to supply human beings with the vital necessities. The experience of world space exploration could be particularly useful in these areas. During the first stage of its development, the criteria of the expediency and advantages of space projects were defined largely in terms of politico-military and ideological considerations. Here is one of the more typical remarks about the importance of space activity to U.S. "national interests," voiced by former President L. Johnson. When he addressed the civil servants and educators of Nashville in March 1967, he declared: "I would not want to be quoted on this, but we have already spent 35 or 40 billion dollars on the space program. And even if it had given us nothing but the information we derived from photographs from space, it would have

already paid for itself at least 10 times over. And all because we now know how many missiles the enemy has, and this has allayed our suspicions. In the past we did what we did not have to do. We built what (weapons systems—G.Kh.) we did not have to build. And we were afraid of what we did not have to fear."¹⁵

Separating space activities from current economic and social problems, however, turned out to be simply absurd. For this reason, the specific criteria of economic effectiveness began to be applied to space projects. Renowned American economist O. Morgenstern directed attention to the many economic advantages of space activity: "They fall into four categories. The first are the effects of annual expenditures of around 5 billion dollars. These funds are sent through many channels to different branches of industry and the service sphere, to different parts of the country, and eventually to the taxpayers.... Second, during preparations for space experiments, qualitatively new products are developed—new equipment, new materials, etc.... Third, some aspects of the space program have a direct (and beneficial) effect on the economy.... Fourth, space experiments provide scientists with new research findings."¹⁶

At the end of the 1970's the experts of the UN Committee on Outer Space suggested the following general categories of advantages derived from the use of space equipment:

Tangible benefits measurable in quantitative terms. They are connected with precisely established and calculated economic advantages subject to quantitative measurement in physical or financial terms;

Tangible benefits not directly measurable in quantitative terms. They are associated with a visible and concrete product, although their value is difficult to calculate in quantitative terms from the standpoint of the improvement of the physical process of production and monetary value. A typical example is the improvement of mapping methods, the value of which is indisputable but is nevertheless difficult to calculate precisely;

Benefits perceived as indirect. Their result is not a physical product, but these advantages are nevertheless of definite value to the recipient: education, medical care, standard of living, and scientific knowledge; political, social, and cultural benefits.¹⁷

An analysis of the documents of international organizations and the works of specialists from different countries on the economic aspects of space exploration points up three groups of criteria revealing different ways in which space exploration stimulates human progress and aiding in the choice of the most effective ways and means by which specific states can transfer achievements from the space program to the economy and the service sphere.

The first group of these criteria is of an approximate and general nature. Here the total allocations for space programs are compared to the "total economic impact."

including, in addition to material advantages, political, military, prestige-related, and ideological benefits, which are also calculated in monetary units. According to the calculations of the Midwestern Institute in the United States, the stimulating effect of the Apollo project on the American economy was equivalent to 1:7. In other words, the total benefits of an investment of 25 billion dollars amounted to 175 billion in monetary terms.¹⁸ The full impact is revealed no earlier than 20 years after the investment of funds.

American Congressman D. Fuqua's 1982 estimate of the economic effectiveness of investments in space exploration was based on the same principle: a return of 14 dollars on each dollar invested in the space program. The President adviser on science and technology policy in the Democratic Carter administration, F. Press, who headed the National Academy of Sciences at the beginning of the 1980's, commented on the congressman's estimate, stressing that the economic effectiveness of investments in space exploration "cannot be calculated on the basis of short-term considerations." In his opinion, "in spite of the indefinite nature of these estimates, the government can expect a return of several hundred billion dollars on the space program in the next decade or two."¹⁹

The second group of criteria of economic effectiveness seems more specific and universal to us because these criteria can be used to assess virtually all of the applied projects of individual countries and international organizations. These criteria extend to space systems for practical purposes (communications, meteorology, navigation, the study of natural resources, environmental protection, etc.) and are based on the principle of the comparison of expenditures on the development, production, and operation of applied space systems to the expenditures on "non-space" systems performing the same functions. The simplest example is the comparison of expenditures on the development and operation of satellite communication channels to expenditures on the installation and operation of cable lines. According to the most conservative estimates, which have been cited in numerous publications, the correlation is 1:5 in favor of space communication systems, and it is sometimes even higher.

The same group takes in assessments of the advantages derived by the economy and the population of specific regions as a result of the operation of space systems. This includes the cost of property saved as a result of advance warnings of natural disasters from artificial satellites and the crews of orbiting platforms. It also includes the impact of improved government operations as a result of the use of space equipment, the higher productivity of agriculture as a result of precise data obtained from

space on seasonal changes in the flora and fauna of specific regions and abrupt changes in natural conditions (droughts, floods, etc.), and the organization of the space-monitoring of the development of agricultural crops over large areas and timely action to combat disease, weeds, and pests.

One effective way of increasing the economic return on investments in the development and operation of applied space systems is the augmentation of the variety of services performed with the aid of these systems. In particular, in addition to the satellite transmission of television programs, facsimiles, and other information in the United States and other countries, satellites are used to facilitate contacts between computer centers and sectorial and regional data banks and between medical centers and establishments; for medical consultations with patients living in remote areas; for vocational programs and for the elevation of the cultural level of the population of many countries. All of this increases the profitability of investments in applied space systems and makes them particularly promising for the national economy.

The third group of criteria of economic effectiveness has no direct connection with the development and operation of space systems, but it includes the extremely important indicators of the stimulating effect of space activities on scientific-technical and socioeconomic progress. These criteria measure the scales and profitability of the selection and transfer of innovations of the most diverse types from the space program to other branches of the economy and the service sphere. The desire of corporations to derive maximum benefits of this type is the reason why the development, testing, and production of new types of space equipment have been accompanied throughout the history of the U.S. space program by intensive appraisals of technical and technological decisions to judge the expediency of their incorporation, on a commercial basis, in many branches of industry, agriculture, power engineering, services, etc.

It is significant that even research programs with such a clear military designation as the SDI and the antisatellite weapon development projects might turn out to be sources of valuable innovations for the civilian economy and the service sphere during the comprehensive analysis of the scientific and technical potential created in the process of their implementation. This is attested to by the data in Table 2, compiled on the basis of the information of the Institute for Security and Cooperation in Space, a public organization in the United States advocating the demilitarization of the American space program and the expansion of Soviet-American cooperation in space.

Table 2.
Possible Peaceful Applications of Technical Equipment Developed for SDI and Antisatellite Weapon Systems

Technical military equipment	Possibilities for peaceful use
Directed-energy weapons	Civilian communications systems; studies of nuclear synthesis, medicine, protection of earth from asteroids
Kinetic-energy weapons (destroying target on contact)	Systems for launching small scientific probes, equipment to protect space vehicles from asteroids and man-made objects
Equipment for space surveillance and guidance of means of destruction to targets in space	Satellite systems to monitor observance of arms control agreements; earth studies from space; air current control systems, systems to warn of natural and ecological disasters on earth, search for extraterrestrial civilizations relations
Service support equipment for space weapons systems (survivability, reliability, energy supply, materials consumption, etc.)	Non-traditional sources of nutrition and methods of energy production, more economical and profitable launch systems, equipment for radiation protection of manned orbiting platforms, use of new materials and technologies for terrestrial needs

Although the technical innovations and other achievements transferred from military and space branches do not always find an "exact address" in civilian industry and the service sphere, no development engineer or production manager would deny the fact that the adaptation of existing designs is usually less expensive than designing from scratch. The process of transferring specific achievements from military and space branches to civilian ones has produced definite benefits even though its stimulating effect on the economy as a whole is still negligible. The agencies responsible for carrying out this process must take part in drawing up statewide conversion plans and program.

It is precisely the "cosmic view" of the economy—i.e., the comprehensive and supra-departmental analysis of the full potential of domestic astronautics with a view to our society's needs—that will reveal the many applications the most advanced achievements of our astronautics can already have in the national economy. The experience of world space exploration might be extremely useful in rebuilding the mechanism for the management of the Soviet space program and in the dramatic augmentation, and without any significant additional expenditures, of the contribution of space exploration to the resolution of many urgent problems in industry, agriculture, medicine, education, and other spheres.

During a recent trip to the United States, I had many conversations about the prospects for Soviet-American cooperation in space with senators and congressmen, the heads of the Office of Technology Assessment, experts from the Research Service of the Library of Congress, official NASA spokesmen, and university professors. All of them have an optimistic view of the prospects for cooperation, but they are literally unanimous in their doubts that the Soviet space program can become economically profitable in the full sense of the term in the near future. In their opinion, the Soviet Union still has a long way to go before it can compete successfully in the world markets for space goods and services. The main reason is the lack of highly qualified economists and experts versed in the political, legal, social, and other ramifications of world space exploration. It would be difficult not to agree. The level of the expert analyses available to the different echelons of the executive and legislative branches making decisions on the study and

use of space in the United States and other capitalist countries is much higher than in our country.

It is precisely this insufficient knowledge about the development of space exploration and insufficient contact with the professional experts studying the space programs of the USSR and other states that can explain the emphatic statements of people's deputies Ch. Aytmatov, B. Yeltsin, and others who have advised cuts in allocations but have not explained the need for this drastic step in even the most general terms. At a time when the United States and other states are expanding the framework of interdisciplinary analyses of long-range prospects for space exploration, improving the interdepartmental mechanisms for the supervision of national space programs, and arranging for the extensive discussion of the socioeconomic and political consequences of space projects, including international ones, the reduction of the Soviet space program could mean that the Soviet Union would lose a chance to conduct operations in world markets for high technology products in the future. The economic aspects of Soviet space exploration should be the topic of serious and thorough studies by representatives of engineering and scientific thinking and of the general public. Only this can bring us closer to the materialization of K.E. Tsiolkovskiy's prediction that the exploration of space will bring mankind mountains of bread and boundless power.

Footnotes

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American-Japanese Partnership: In Search of a New Model

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[Article by Aleksey Demosfenovich Bogaturov, candidate of historical sciences and senior scientific associate at Institute of U.S. and Canadian Studies, and Mikhail Grigoryevich Nosov, candidate of historical sciences and sector head at Institute of U.S. and Canadian Studies]

[Text] American-Japanese relations today are primarily the interaction of two colossal sets of economic potential based on the close and intricate intermingling of interests and the mutual penetration of national economic structures. The ability of the two countries to influence

the state of international economic relations would be difficult to overestimate. Suffice it to say that the combined GNP of the United States and Japan amounted to 6.9 trillion dollars in 1987 (23 percent of the world GNP). The two countries' share of world trade reached 24 percent, and their share of direct foreign investment reached 41 percent.

The significance of the American-Japanese politico-military partnership based on the 1960 treaty is only marginal, but the consistent development of relations between the two countries is having an increasing effect on the economic and military-strategic situation in the Asian Pacific and in the world as a whole.

When U.S. Secretary of State J. Baker addressed the Asia Society in New York on 26 June 1989 with his speech on the agenda for the new Pacific partnership, he had good reason to stress that "no relationship in the Pacific zone is of greater importance to the region or to the whole world than our alliance with Japan."

The presence of serious differences of opinion between the United States and Japan is also indisputable. It is quite a different matter, however, that their form must be separated from their essence in order to determine whether trade and economic ties are really the main source, if not the only source, of centrifugal tendencies in the American-Japanese alliance or something like an relief valve for the release of the excessive pressure accumulating imperceptibly in other areas of bilateral relations.

In Search of a New International Status

The political interaction of the United States and Japan in the 1980's steadily developed in the direction of Tokyo's more perceptible influence in world politics. Japan had some success in this area. The United States and its allies recognized its status as a world economic power and as an integral and vital part of the Western political and military structure.

Tokyo's steps in this direction were consistent. The process of molding American-Japanese relations into an alliance was completed in 1981: In a joint communique on Japanese Prime Minister Z. Suzuki's visit to the United States on 7-8 May 1981, the term "alliance" was used officially for the first time in reference to these relations.²

In May 1983 the head of the Japanese Government, Y. Nakasone, reinforced this diplomatic success by signing the "Political Declaration on Security Affairs" along with six other industrial Western countries at the conference in Williamsburg (United States). It recorded the common approach of the "seven" to global security issues in the Western world. Not only did Japan express its solidarity with the NATO countries in this way, but the NATO countries also accepted Japan, if not as a full-fledged ally then at least as a privileged partner, closely related to them by common interests in the economic and security spheres.

December 1987 was also an important time for Tokyo. This was when the Soviet-American INF Treaty was signed in Washington, calling for, in part, the elimination of Soviet SS-20 missiles in the Asian as well as the European part of the USSR. When the treaty was being drafted, the Japanese leadership made a considerable effort to direct the American administration's attention to the nuclear weapons in Asia and to encourage their inclusion in the talks. For this reason, we can say with some reservations that this was the first time Japan took part, even if only through American mediation, in the resolution of one of the major issues of disarmament.

In the 1980's Tokyo began striving more vigorously to participate in the settlement of regional conflicts—the Arab-Israeli and Iran-Iraq conflicts and the conflicts in Korea, Cambodia, and Afghanistan. Its main channel of influence consisted in promises of guaranteed preferential financial aid to the parties in the conflict in the event of a compromise on terms acceptable to Tokyo.

Japan began supporting the United Nations' peace-making efforts more effectively. It contributed to the financing of the international peace-keeping force in Lebanon for the first time in 1982. In September 1988 Tokyo officially announced its intention to extend 60 million dollars in refugee aid and to send civilian personnel to work for the UN goodwill missions in Afghanistan and Pakistan following the withdrawal of the limited contingent of Soviet troops from Afghanistan.

All of these steps, which allowed Japan to strengthen its international prestige perceptibly, were viewed by the American administration as a sign of loyalty. High-level Washington officials, including the President, felt obligated to repeat the customary words about Japan as the main American ally in Asia at least once a year. American-Japanese political consultations on all levels, including the summit level, became a regular occurrence. In general, however, the view of Japan as an inferior partner still prevails in the United States. The American Congress, for example, regularly passes resolutions containing recommendations on Japanese fiscal, military, and foreign trade policy. At the same time, it is difficult even to conceive of the theoretical possibility of similar Japanese parliamentary resolutions in relation to the United States.

Washington's belief in its moral right to seniority is based on the asymmetry of the functions stipulated for the two sides in the 1960 treaty. The treaty envisages the defense of Japan by the United States, for instance, but not Japan's defense of the United States. This is the reason why American legislators are always irritated by Tokyo's economic successes, which are made possible, according to Washington, largely by its ability to economize on military expenditures.

By the same token, the Japanese have developed an inferiority complex in connection with the constitutional restrictions preventing the creation of military potential which would, in principle, lower the level of American

commitments to defend Japan. Each time the Japanese Government wants to increase military spending, it addresses the public's resentment of American pressure.

Prerequisites are gradually taking shape for the spread of feelings in support of the revision of the treaty with the United States and the renunciation of the restrictive interpretation of the 9th article of the Japanese Constitution, prohibiting the creation of strong armed forces. The possibility of an increase in these feelings is being heightened by the economic successes which are stimulating the growth of national self-awareness and by the change of generations, now that the people occupying positions of leadership in Japan are not part of the generation raised on the experience of Japan's defeat in World War II, but on a sense of their economic superiority and national uniqueness.

Of course, this does not mean that the Japanese society is ready to begin any official discussion of the revision of the treaty in the foreseeable future.³ Japan's economic advantages are so great that virtually the entire business community and the political forces backed up by it want to keep this advantage. Even the opposition parties, with the exception of the Japan Communist Party, acknowledge its expediency to some extent. In this context, there is no reason to anticipate radical changes before the end of this century.

The funds made available by the relatively low level of military spending, however, are being used to stimulate economic development, and the growth of Japan's economic strength is creating favorable conditions for greater receptivity in the public and political community to the idea of the revision of the legal bases of interrelations with the United States.

In any case, this tendency should accelerate the process of what could be described as the increasing obsolescence of the American-Japanese alliance in its present form, the signs of which are already apparent today. By the beginning of the 21st century, both powers will probably have to find a new model of interaction.

The Burden of Defense

Cooperation in defense is one of the central elements of the bilateral ties. "Our relationship with Japan in the safeguarding of security is the basis of U.S. defense policy in East Asia and the Pacific," the U.S. secretary of defense's report to the Congress said.⁴

In spite of this, the American side always underscores the inadequacy of Tokyo's military efforts. During the years Reagan was in office, however, the range of opinions on this matter grew broader, primarily as a result of the growing realization by the more sensible segment of the policymaking establishment that an increase in Japanese military spending to, for example, 2-3 percent of its GNP could lead to the creation of independent military potential and allow Japan to break free of U.S. control.

One of the most influential members of the "Reagan team," Secretary of Defense F. Carlucci, said at a press conference on the results of his official visit to Tokyo in June 1988, for example, that he did not see any need for an abrupt increase in Japanese military expenditures because he could not imagine "how these funds might be used within the confines of the functions and the military role on which a mutual understanding was reached" during the talks.⁵

The same point of view was expressed by Secretary of State G. Shultz, Assistant Secretary of Defense for International Security Affairs R. Armitage, Assistant Secretary of State for East Asian and Pacific Affairs G. Sigur, and several other members of the administration. In the academic community this point of view was shared by renowned scholar and former statesman Z. Brzezinski. In the U.S. Congress, however, there were still feelings in support of increased Japanese military spending, stemming mainly from the continued deficit in trade with Tokyo.

In the 1980's American-Japanese military cooperation underwent perceptible quantitative and qualitative changes. The main functions assigned to Japan in U.S. strategy were clearly defined during these years and, according to the plans of the American leadership, were to be performed by Tokyo until the end of the century. They include such responsibilities as the defense of sea lanes within a radius of 1,000 nautical miles (1,850 kilometers), the mining of three straits (Korea, La Perouse, and Sangar), and the air defense of American installations on Japanese territory—i.e., they are still auxiliary functions from the purely military standpoint.

In spite of the role it was assigned, Japan's defense expenditures did increase in the last decade at a rate of over 6 percent a year on the average from 1983 to 1987.⁶ In fiscal year 1987 they exceeded 1 percent of the GNP for the first time since 1976, and in 1988 they amounted to around 40 billion dollars according to the NATO system of calculation. This put Japan in third place in the world in proportional military expenditures, although the substantial increase calculated in dollars was primarily a result of the rising value of the yen in relation to the dollar between 1985 and 1988. Tokyo spends around 2.5 billion dollars each year for the maintenance of 60,000 American soldiers on Japanese territory.

In accordance with modernization plans, by 1990 Japan's Self-Defense Forces will remain on virtually the same quantitative and structural levels but will undergo qualitative changes aimed at increasing their fire power and mobility. This, however, will not allow Japan to conduct offensive operations and will even keep its potential below the level needed for the performance of such tasks as the mining of the straits or the effective patrolling of the 1,000-mile zone. Apparently, Japanese military potential as a whole is unlikely to acquire offensive features before the end of the 1990's.

This does not mean that American-Japanese politico-military cooperation has reached its limits. The stabilization

of its quantitative parameters is more likely. This will be accompanied by an emphasis on the qualitative indicators of the partnership and its extension to the spheres in which its military-strategic nature is less evident—for example, the sphere of economic aid to developing countries.

In 1987 Japan had already moved up to second place, following the United States, in official development aid, which totaled 7.45 billion dollars. At a conference of the "seven" in Toronto in June 1988, the head of the Japanese Government, N. Takeshita, proposed a program envisaging the allocation of 50 billion dollars for this purpose in the next 5 years (1988-1992).⁷

Most of the money will be sent to the Philippines, Thailand, Pakistan, Egypt, Jordan, Oman, and Turkey—i.e., to the states which are, in the words of U.S. State Department official W. Clark, "of special importance to Western strategic interests."⁸

Economic cooperation with young states is the sphere of the American-Japanese partnership in which Japan's own advantages are completely evident because it is not always clear who benefits the most in the final analysis: Tokyo, by strengthening its influence in the developing world, or Washington, by stabilizing the allied ruling regimes.

Cooperation and Technological Secrets

The American administration has been showing a greater interest in technological cooperation with Tokyo since the beginning of the 1980's. By that time, Japanese scientific and technical potential had grown strong, the country was on the cutting edge in the manufacture of high technology products, and Japanese technology had become unique in the development of new materials, fiber optics, and semiconductor items. Access to these breakthroughs could allow Washington to include Japan's scientific and technical thinking in the modernization of U.S. military technology.

Tokyo's inclusion in military-technological cooperation, presupposing the observance of rules of secrecy, held out the possibility of the extension of American control to an important sphere of Japanese research. This would promote the technological attachment of Japan at a higher qualitative level.

Washington recently won important concessions from Tokyo in the establishment of a legal basis for scientific and technical exchange. An agreement on the transfer of Japanese technology, suitable for military use, to the United States was signed in 1983, and another agreement was signed in summer 1987 on participation by Japanese companies in SDI-related research. In October 1988 representatives of the military departments of the two countries signed an agreement on the joint development of the technology for the production of missile guidance systems.

The implementation of these agreements will be complicated by the Japanese business community's apprehensions regarding the possibility that its technological

secrets will become known to its American competitors. Cooperation with the United States, however, also appeals to Tokyo in one sense. It can facilitate access to the basic development projects of the United States, which are superior on the whole to Japanese projects, with the exception of important but fairly narrow fields of knowledge in which Japan is clearly in the lead.

American businessmen are also afraid of losing their technological edge. They are not pleased with the possibility that government contracts might be awarded to Japanese corporations. The position of the large group of congressmen criticizing Tokyo for its inability to guarantee the protection of military secrets also creates an unfavorable climate for cooperation.

Between 1983 and 1987 there was only one case of the transfer of Japanese technology to the United States: the Ishikawajima Harima Jukogyo corporation supplied the American side with the manufacturing instructions for equipment for the construction and repair of military tankers. This technology had been perfected and was already well-known in principle, and the contract did not arouse any particular objections.

The question of the development of fighter support for the Japanese Self-Defense Forces was a much more complicated matter. Japanese companies intended to develop and produce the fighter independently on the basis of the American model. The American side insisted on a joint project in the hope of obtaining access to the technology which was of interest to it and which belonged to Japanese firms, and in the knowledge that this would also provide American companies with lucrative contracts. The negotiations took around 2 years. It was not until November 1988 that the decision was made to develop and produce the new FSX fighter jointly, but the new administration effectively froze the agreement when it decided to conduct a supplementary study of the project. Similar difficulties arose when a decision had to be made on the transfer of the Aegis shipboard air-defense system to Japan.

Other projects have been discussed for a long time. The most important of these is the plan to establish an air-defense system for the western Pacific, which would become part of the SDI (the so-called mini-SDI or Asian SDI project). These plans never emerged from the stage of preliminary investigation.⁹ In general, it is clear that there is no reason yet to assume that Japan will begin collaborating actively with the United States in the military-technological sphere.

In addition to the desire to limit the access of competitors to existing technology, disagreements about the intellectual ownership of the results of joint research are impeding the development of cooperation. Along with other factors, they prevented the conclusion of a new American-Japanese agreement on scientific cooperation immediately following the expiration of the previous one in 1985.

The problem consists in the absence of precise rules governing the rights of the different sides. This is not simply a matter of commercial interests. Because virtually all of the new technology belongs to the dual-purpose category to some extent, the United States is insisting on the limitation of its use. The American side is effectively gaining an opportunity to intervene in the production operations of Japanese firms.

An agreement was finally signed in Toronto at the meeting of the "seven" on 20 June 1988. The Americans gained the priority right to patent the inventions of Japanese specialists working in the United States if it could be proved that the research organizations employing them had made a substantial contribution to the discoveries. At that same time, Washington withdrew the demand for stricter rules governing the use of dual-purpose technology.¹⁰

It is clear, therefore, that both sides are trying to surmount their differences. The delays in this process and the prolonged negotiations attest to the intensity of existing differences of opinion. In essence, this is a struggle between the United States and Japan for more favorable positions in international division of labor at the beginning of the 21st century.

If Japan wins this round—i.e., if it secures a more favorable position in certain fields of scientific and technical progress—it will have even more influence in the world economy. In addition, it can augment its political role in the world. Obviously, this would make the Japanese leadership less dependent on Washington in a broad range of international development issues.

If the United States decides to establish strict control over Japan's scientific-production potential, Tokyo's plans for stronger economic and political influence in the world might be undermined. In this case, it is possible that the Japanese leadership, guided to some degree by considerations of prestige, will try to compensate for its partial dependence by creating stronger military potential and reducing Washington's control in the politico-military sphere.

Both of these options are unlikely to win Washington's approval, and this is why Washington is trying to find the optimal line in the dialogue with Tokyo, without taking the matter to the point of open conflict, and to guarantee Japan a sufficiently important and respectable, but simultaneously dependent, position in world production and technological exchange.

Ally-Rivals

The combination of indisputable interest and fairly intense rivalry, apparent in the sphere of scientific and technical exchange, is also characteristic of trade and economic relations between the United States and Japan. In 1987 the trade between the two countries amounted to 115.1 billion dollars—almost the same amount as the volume of American trade with the 12

EEC countries. Japan accounts for 20 percent of American imports and 11 percent of American exports. By the same token, the development of the Japanese economy would be unthinkable without stable ties with the American market, securing 36.5 percent of Japan's exports and 21.1 percent of its imports.¹¹

In spite of this, virtually all of the friction between the two countries in recent years has been connected in one way or another with trade and economic relations. The huge U.S. deficit in trade with Japan, which totaled around 300 billion dollars in 1981-1988, has become a symbol of this friction.¹² Besides this, Washington is constantly accusing Tokyo of refusing to open up its domestic market and investment sphere to the maximum and of encouraging exports instead of stimulating domestic demand.

In Japan, most of the American demands are considered excessive and not completely valid. Tokyo, which has good reason to believe that many branches of its own economy are more competitive, has accused Washington of protectionism and discrimination. The intensity of the reciprocal attacks periodically creates the impression that the American-Japanese differences are irreconcilable and that their relationship is on the verge of complete estrangement.

Eventually, however, all of the conflicts are resolved, and the concessions made by the sides do not have any perceptible adverse effects on the alliance. Furthermore, because of the intermeshed interests, there is a growing awareness on both sides of the Pacific of the impossibility of the severance of economic ties, or even of a protracted crisis in these ties, because this could have an irreversible effect on the U.S. and Japanese economies and on the world economy as a whole. The United States is genuinely disturbed by the foreign trade deficit, but there are several factors compensating for the damage Japan has inflicted on the American balance of trade.

Much of the income from sales of Japanese goods in the U.S. market, for example, returns to the American economy in the form of Japanese direct and portfolio investments and purchases of government securities. Between 1985 and 1988 Japan's capital investments in the United States rose from 102.8 billion dollars to 156.5 billion, with direct investments accounting for 23.4 billion.¹³

It must be said that one of the reasons for the trade imbalance can be found in the distinctive features of the economic development of the two countries. In contrast to the United States, where consumption has traditionally played the leading role in the process of economic growth, Japan has a different model of development—based on the encouragement of accumulation, which was justified in the 1960's and 1970's by the high demand for capital within the country. In the 1980's the situation changed and there was a relative surplus of capital in Japan, but the model of growth did not change, and this stimulated overseas expansion. It was not until a few

years ago, largely under pressure from Washington, that the Japanese strategy of economic development began to put the emphasis on domestic consumption.

Therefore, Japan was given a chance to become a consumer society a few decades after the United States. Furthermore, the process of restructuring will require a transition period, and the length of this period will depend on how radical the restructuring is. The preservation of distinctions can cause imbalances and new conflicts, but there is no reason to exaggerate them.

People in Washington cannot ignore the fact that Japan is the main consumer of American agricultural products. More American goods are sold in the Japanese market than in the FRG, France, and Italy combined. In general, this U.S. export market is second only to the Canadian market. Furthermore, more than 40 percent of American sales in Japan consist of finished products, including highly complex items, which cannot always be sold in other countries.

According to data for 1986, American investments in Japan totaled 91.9 billion dollars, with direct investments accounting for 11.3 billion.¹⁴ Although this is much smaller than the volume of Japanese capital investments in the American economy, the United States is the leader among foreign investors in Japan and wants to expand its influence in that country.

It is significant that a system of highly specialized ties in production-technological cooperation in the private sector of the two countries began taking shape in the 1980's, and the disruption of these ties could cause losses in the U.S. and Japanese economies. This is less a matter of the establishment of subsidiaries on one another's territory than a finely tuned system of deliveries—for example, Japanese corporate shipments of components, parts, and mechanisms needed for the products of American firms, for which this form of cooperation is more convenient than the organization of their own production.

Finally, Japanese companies have more than 640 of their own enterprises in 43 American states. It is true that Japanese investments are distinguished by fairly low labor-intensiveness in comparison with the investments of other countries. An equivalent investment of Canadian capital, for example, would secure three times as many jobs. Nevertheless, Japanese firms are playing a certain role in solving the employment problem. Between 1986 and 1988, for example, the number of people employed at enterprises belonging to them in the United States rose from 82,000 to 160,000.¹⁵

By contributing to the development of the infrastructure and the growth of employment, Japanese capital is winning the loyalty and even the concern of local government, labor unions, and the population. The resulting favorable social atmosphere is doing much to neutralize anti-Japanese feelings in the American society.

Superior Among Equals?

We must not forget, however, that American-Japanese relations on the whole are usually regarded by the public in the United States and Japan, and also in other countries, as potentially confrontational, if not already conflict-ridden. It is apparent that influential forces in the policymaking spheres in Washington and Tokyo are making use of the mutual apprehensions in the bilateral relationship for their own purposes and have an interest in perpetuating them within controllable limits.

When we trace the development of American-Japanese disagreements in recent decades, we can clearly see that Tokyo's concessions can only be described as such with reservations. In many cases they have been planned in advance by the Japanese Government or have at least corresponded to its plans. When they have flared up, they have generally stepped up the institution of specific measures, and have not led to any fundamental changes inconsistent with the long-range interests of national development.

The fact that the American pressure is being used in Tokyo to justify government actions which have not won the support of the general public is quite a different matter. References to U.S. demands, for example, are being used to justify Japan's move toward the liberalization of agricultural imports, although Japanese ruling circles have known for a long time that barriers to foreign products will slow down the restructuring of the agrarian sector. The average Japanese is also told that the decisions to exceed the 1-percent limit on military spending or to patrol sea lanes within the 1,000-mile zone are a result of Washington's pressure, but these moves are logical from the standpoint of the Japanese ruling elite, which officially announced its desire for global political influence in the middle of the 1980's.

Washington, in turn, is trying to use anti-Japanese feeling not only and not so much to gain advantages in the trade and economic sphere as to solicit fundamental concessions from Tokyo, primarily in the form of changes in the legal bases of their relationship to reinforce American influence in Japanese politics. It was no coincidence that the American administration began to use economic friction for this purpose. There were objective and subjective reasons for this choice. The former include the genuine dissatisfaction of part of the U.S. business community and political elite with the declining competitiveness of the American economy, although, as mentioned above, when these losses are calculated in real terms and for the American economy as a whole instead of individual corporations, they are much smaller than they are commonly assumed to be. This concerns the essence of the conflicts.

The form they take and their severity, however, depend on subjective factors. They include the delay in changes in American public perceptions of Japan. As a result, today the Americans, including policymakers, are still

not always prepared to see Japan as an equal partner instead of the indisputable satellite it was two or three decades ago.

Disagreements between different groups and currents are superimposed on the general picture of American-Japanese friction and reinforce the appearance of acute political struggle over relations with Japan. This charges the atmosphere with excessive emotion, and the apparent severity of intergovernmental disagreements becomes a reflection of inter-party battles.

The economy naturally serves as the arena where competing groups can easily view themselves as fighters for their own national interests—a role claimed by all. This reinforces the perception of trade and economic friction as the fundamental source of conflicts.

In our opinion, it is precisely this thesis, which is such an established part of Soviet studies of Japanese and American affairs, that needs some adjustment today. It appears that economic relations cannot represent a real challenge to the bilateral partnership today or in the foreseeable future. On the contrary, in time they will become an increasingly clear centripetal force in the American-Japanese alliance. Present and future disagreements are something like growing pains and are unavoidable during the process of the transfer of relations to the qualitatively higher, pre-integration level.

A genuine sore spot, where the possibility of truly serious conflicts cannot be excluded, is the sphere of policy, including military policy. It is precisely in this sphere that a crisis could break out at the beginning of the 21st century, but it certainly should not be regarded as something inevitable. Radical changes will be possible only if Washington and Tokyo, in spite of their efforts, are unable to find a mutually acceptable partnership formula taking all of the changes in their comparative potential into account.

In which direction might American-Japanese relations evolve?

Apparently, there are two main possibilities. In the first, the United States will follow its present course and move toward the more reasonable distribution of the "burden of responsibility," signifying Japan's performance of important but fairly specialized functions within the alliance. It is most likely that they will consist in the scientific-technical and financial support of the objectives of a coordinated foreign policy strategy. Washington will have to seek a form of partnership consistent with Tokyo's growing desire to play a political role corresponding to its ideas about national prestige and simultaneously reserving Washington's right to key positions. In this case, there will be a greater chance of perpetuating the asymmetry of commitments based on the "security treaty."

If the United States is unable to find the appropriate form of cooperation with Japan, and if the nationalist

forces advocating greater autonomy within the framework of a coordinated foreign policy strategy of the developed capitalist countries should gain the upper hand in Tokyo, the revision of the treaty will be more probable. This is another way in which Japan might establish independent military potential.

This prospect is certainly contrary to Washington's long-range interests. The United States, just as the Soviet Union, does not want a new large military power, not to mention a nuclear power, in the Asian Pacific. This is one aspect of the parallel interests of the United States and USSR in East Asia and the Pacific.

Footnotes

1. FAR EASTERN ECONOMIC REVIEW, 6 July 1989, p 23.
2. KOKUSAI MONDAI SHIRYO, 1981, No 6, p 41.
3. The Treaty of Mutual Cooperation and Security was concluded in 1960 for the next 10 years. Since 1970 it has been renewed automatically each year—i.e., the question of the annulment of the treaty can be raised at virtually any time.
4. "Report of the Secretary of Defense to the Congress," Washington, 1988, p 84.
5. TIME, 4 July 1988, p 9.
6. "Defense of Japan 1986," Tokyo, 1987, p 315.
7. INTERNATIONAL HERALD TRIBUNE, 5 December 1988.
8. "Statement by W. Clark, Jr., Deputy Assistant Secretary of State for East Asian and Pacific Affairs to the Subcommittee on Asia and Pacific Affairs," Washington, 4 October 1988, p 14.
9. NIHON KEIZAI SHIMBUN, 28 July 1988.
10. NATURE, 23 June 1988, p 691.
11. SURVEY OF CURRENT BUSINESS, June 1988, p 46.
12. Calculated on the basis of data in "White Paper on Foreign Trade. Market Surveys," Tokyo, 1982-1989.
13. "Statistical Abstract of the United States 1988," p 758.
14. "Guide to Foreign Investment," TOYO KEIZAI, 4 December 1987, p 87.
15. U.S. NEWS AND WORLD REPORT, 1 February 1988, p 73.

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ECONOMIC SURVEYS

Engineering Industry and Foreign Trade

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[Article by Aleksey Removich Gorbunov, post-graduate student at Institute of U.S. and Canadian Studies]

[Text] The scientific-technical revolution has had a tremendous effect on the United States' position in the world capitalist economy. The technological influence it won during the first stages of the scientific-technical revolution guaranteed it a virtual monopoly in Western high technology markets in the 1950's and 1960's. In the 1970's and 1980's the scientific-technical revolution secured the development and intensification of the restructuring of the American economy and promoted the appearance of scientific discoveries and technologies of cardinal importance in the United States' move to the new technological structure.

The United States is experiencing substantial economic difficulties, however, in the struggle for world military and technological leadership: Its balance of foreign trade is a growing problem, and many goods are less competitive now than they were in the past. The traditional positive balance of trade in engineering products was replaced by a negative balance in the early 1980's. It subsequently displayed constant growth and exceeded 70 billion dollars in 1987.

Dynamics and Structure of R & D

The United States' many years of steady leadership in gross expenditures on R & D, among other factors, guaranteed it an advantageous position in world markets for engineering products, and this did much to promote the restructuring of foreign trade and the growth of exports of the most technically complex items requiring the highest scientific input.

In the 1970's and 1980's the competition in world markets for engineering products grew more intense. Virtually all of the United States' main competitors began paying more attention to the scientific and technical sphere of the economy. During this period Japan and the FRG began to catch up with the United States in such indicators as the ratio of R & D expenditures to the GNP. By the beginning of the 1980's the FRG and Japan were ahead of the United States in proportional expenditures on civilian research in the GNP.

The dynamics of American R & D expenditures in the 1970's and 1980's clearly revealed two separate stages.

In the beginning and middle of the 1970's, the rate of increase in R & D expenditures declined perceptibly in the United States and there were signs of deterioration in their structure. During this period the majority of corporations preferred to invest capital in research and development projects to improve existing products.

Between 1974 and 1978 the improvement of existing models of equipment accounted for more than half of all R & D expenditures in industry, or 1.6 times as high as the amount spent on the development of new products. Expenditures on the improvement of technology were 3.2 times as high as investments in the development of new production processes.¹ The lower percentage of advanced projects had a direct effect on the technical level of export goods.

There was a sudden transition, however, at the beginning of the 1980's: R & D expenditures increased more rapidly and their structure began to improve again. Whereas an absolute decrease in R & D expenditures, in constant prices, was recorded in 1967-1975, the average annual rate of increase in 1980-1983 was 4 percent. In 1984-1987 the rate rose to 6-7 percent a year. In 1981 the percentage of funds used in the development of new goods began to exceed expenditures on the modernization of existing production for the first time since 1974.²

The improvement of the structure of R & D also increased the percentage of research projects conducted in the private sector. Whereas it accounted for 68 percent of all research in 1975, the figure was 73 percent in 1988. The larger share of R & D conducted by corporations is evidently a sign of improvement in the interaction of science and production in the American economy.

The Reagan administration and Congress took a number of fiscal, credit, and legal-organizational measures to stimulate research. In the 1980's there was a perceptible increase in proportional R & D expenditures in the American GNP and in expenditures on basic research. The U.S. share of world exports of high technology products increased somewhat at the beginning of the decade. Industrial parks and business ventures underwent further development in those years. American venture capital increased tenfold between 1978 and 1986 and was almost double the amount of the combined venture capital of all of the largest capitalist countries.

The return to the earlier situation in which American products were clearly superior to the products of other capitalist countries in terms of technological characteristics, however, did not take place. The decline of R & D in the 1970's had a particularly serious effect on the electrical equipment industry and on transport engineering and naturally affected the competitiveness of many types of American products and the balance of foreign trade in the 1980's. The fact is that processes in the R & D sphere can influence the dynamics of economic indicators after an interval of 10-15 years.

Ambiguous tendencies are also evident in the sectorial structure of R & D. Engineering accounts for more than 70 percent of all the research in the country.

Most of it is concentrated in a fairly small group of the most advanced fields—the aerospace industry and computer engineering. Around 30 percent of all R & D expenditures occurred here in the 1980's. In the FRG

and Japan, R & D allocations are more or less equally distributed among automotive, electrical, and general engineering. In 1987 proportional R & D expenditures in the automobile, textile, and food industries and in ferrous metallurgy were higher in Japan than in the United States.

Now that American corporations are concentrating on the development of new information technologies, the amount spent on the automation of technological processes, known as electromechanics, in American industry is only one-tenth of the amount spent on computers. Federal R & D expenditures on electromechanics in the United States are equivalent to no more than 1 percent of the expenditures on computer engineering. According to some estimates, structural disparities of this kind in the R & D sphere are responsible for 50-80 percent of the American foreign trade deficit.³

The distinctive features of the development of U.S. scientific and technical potential in the 1970's and 1980's have had a direct effect on the competitiveness of American products by disrupting the balance between national exports and imports. The emphasis on the priority development of high technology branches, however, is strengthening U.S. strategic positions in the sphere of science and technology.

What Caused the Deficit?

The dynamics and structure of foreign trade as a whole reflect the tendency toward the restructuring of the American economy and the distinctive features of the development of the country's scientific and technical potential in the last two decades.

The products of the engineering industry represent around half of all American exports. The United States has made its major scientific and technical breakthroughs in two fields—industrial electronics and aerospace equipment. Suffice it to say that they account for more than 40 percent of all American exports of engineering products.

The United States' successes in the sphere of information technology and in the production of several types of unique equipment constitute a basis for the enhancement of the competitiveness of a broader group of high technology products. The use of computers in machine tool manufacture guaranteed important advantages in the development of more complex automation equipment, such as the flexible production systems, laser technological equipment, industrial robots with technical vision, and others. American corporations have begun exporting communications systems using computers and microprocessors. The development of the aerospace industry contributed to the growth of exports of jet engines and turbines. Besides this, the combination of digital data processing and aerospace technologies in the 1970's and 1980's made the production and export of satellite communication systems possible.

An analysis of conditions in the world markets for engineering products indicates that the highest priorities for the United States are the items which are generally distinguished, first of all, by high scientific input and technical complexity and, second, by highly individualized and small-series production. This category takes in the majority of computers, aerospace equipment, complex communication systems, equipment for comprehensive automation, high technology power plants, and others.

The United States rarely specializes in mass-produced items now. In the 1980's it had a steady negative balance in the trade in automobiles, electronics (with the exception of computers and some complex electronic instruments), home appliances, and many types of standard industrial equipment.

Exports and imports of technological equipment for the traditional industries, materials-intensive vehicles, and power engineering equipment occupy a special place in U.S. foreign trade. These items constituted an important American export item until just recently, but their significance has declined perceptibly in the last few years.

In line with these tendencies in the structure of American engineering exports, we have singled out three types of products:

Mass-produced goods;

Products with the highest scientific and capital input;

Materials-intensive technological equipment.

The regrouping of U.S. foreign trade statistics in line with these three categories of products produced the following results (see Table 1).

Table 1.
Structure of U.S. Foreign Trade in Engineering Products, %

Categories	Exports					Imports				
	1978	1980	1983	1985	1987	1978	1980	1983	1985	1987
Mass-produced engineering products	40.9	35.7	37.4	39.3	39.4	79.4	73.6	76.2	74.8	72.4
Unique and small-series high technology products	30.9	34.2	39.0	40.4	42.5	4.3	10.8	10.4	11.5	12.9
Materials-intensive machines and equipment	28.5	30.0	23.5	20.3	18.1	16.3	16.9	13.4	13.6	14.7

Calculated on the basis of U.S. customs statistics for the appropriate years.

Small-series high technology products accounted for an increasing share of exports of engineering products from 1978 to 1987, and this was apparently due primarily to the distinctive features of the international specialization of the United States. The reduced exports of most of the traditional types of equipment reflect the tendency toward the restructuring of production in the United States and the declining demand for this equipment in foreign markets.

The increased imports of high technology investment commodities attest to the intensive renewal of the production system in the United States in the 1980's. During the same period the proportions accounted for by equipment, vehicles, and consumer goods in the import structure increased.⁴

The distinctive features of American exports and imports of engineering products are reflected in the balance of trade in our three chosen categories (see Table 2).

Table 2.
Balance of U.S. Foreign Trade in Engineering Products, millions of dollars

Categories	1978	1980	1983	1985	1987
Mass-produced engineering products	-12,852	-16,280	-37,565	-71,069	-88,995
Unique and small-series high technology products	16,354	23,811	24,919	23,290	24,913
Materials-intensive machines and equipment	10,180	15,985	8,340	350	-6,284

Calculated on the basis of U.S. customs statistics for the appropriate years.

The dynamics of the balance in these three categories attest to the following distinctive features of the development of U.S. foreign trade in the 1980's:

Imports of materials-intensive equipment increased more quickly than exports in the late 1970's and the 1980's. In 1987 a negative balance had already been recorded for this group of commodities;

There was a positive balance in the trade in unique commodities with high scientific and capital requirements, and

this was a much more stable balance than in the group of high technology products as a whole (also see Table 3);

The negative balance for engineering products was mainly due to the results of the foreign trade in mass-produced goods.

Small-series capital-intensive items represent three-fourths of the overall production volume in American engineering. Domestic needs for mass-produced goods are covered to a considerable extent by imports, where

their share is just over 70 percent. By the middle of the 1980's, for example, foreign firms controlled up to 30 percent of the U.S. automobile market, over 50 percent of the market for machine tools, and 48 percent of the telephone equipment market. American corporations were virtually crowded out of the market for videocassette recorders, home radios, and black-and-white television

sets. The discrepancy between the output of mass-produced goods and the demand for them is one of the main reasons for the larger negative balance in the U.S. trade in engineering products.

The same processes are having a negative effect on the indicators of U.S. foreign trade in products with high scientific input⁵ (see Table 3).

Table 3.
U.S. Foreign Trade in High Technology Products, billions of dollars, 1982 prices

Years	Exports		Imports		Balance	
	Total	High technology exports	Total	High technology imports	All products	High technology products
1970	69.7	25.4	64.2	10.0	5.5	15.4
1975	119.7	38.0	92.7	16.0	27.0	27.0
1980	181.8	63.8	161.9	32.7	19.9	31.1
1981	177.6	64.3	166.4	36.0	11.2	28.3
1982	191.3	58.1	158.1	34.5	-6.8	23.6
1983	133.2	55.8	165.7	38.4	-32.5	17.1
1984	142.5	58.9	217.5	53.5	-75.0	5.4
1985	142.0	60.0	236.2	56.8	-94.2	3.2
1986	141.1	61.5	262.1	63.7	-118.0	-2.2
1987*	170.7	73.4	284.1	70.1	-113.4	3.3

* Estimate.

Source: "Science and Technology Data Book," Washington, 1987, p 44.

There are many reasons for the reduction of the positive balance in the trade in high technology goods. They include the intensification of competition in virtually all markets for technically advanced products, the restructuring of the machine and equipment supply in American industry, the broader demand for investment commodities in the 1980's, and others. In our opinion, however, a special role was played by the nature of intra-sectorial specialization in the high technology sector. The undesirable changes in the balance of trade in high technology products are largely the result of the growth of imports of "secondary" high technology items—consumer electronics, various electronic components, and standard electronic and industrial equipment. American producers still have a firm footing in the domestic and world markets for computers, industrial electronics, and aerospace equipment.

The reduction of the positive balance in the trade in high technology items and engineering products also reflects, however, the United States' tendency to fall short in many indicators of competitiveness. American producers, for example, cannot fill orders as quickly as the Japanese, and their finished items are less reliable.⁶

The international specialization in the production of unique high technology equipment is indissolubly connected with the priority the American TNC's assign to the development of fundamentally new products. The first programmable machine tools, industrial robots, microprocessors, videocassette recorders, and virtually

all of the main types of computers were developed in the United States. At the same time, the American TNC's have lost or are losing their leading position in the production of many of these items to corporations from other countries, and especially to Japanese corporations. This was true of the production of programmable machine tools, industrial robots, videocassette recorders, and other items.

America's indisputable scientific and technological achievements have not always guaranteed this country a commensurate economic return in the present phase of the scientific-technical revolution. The excessive specialization in the development and production of technical innovations contributed to the growth of the negative balance in the trade in traditional types of industrial equipment and consumer goods, and now the balance between exports and imports is steadily growing more negative. These features of the structure of foreign trade are frequently regarded as signs of the economic "aging" of the state. Similar features can be seen in the foreign trade of Great Britain, France, and even Japan, which is encountering increasing competition from producers of consumer goods in Southeast Asia, and it appears that they are due less to the "aging" of the economy than to the objective conditions of the establishment of a fundamentally new structure of national production in the United States and other developed capitalist countries. The nature of this process will depend largely on the exact processes involved in the capitalist economy's

move from the assembly line to automated production. The role of flexible technological systems allowing for the production of mass- and small-series goods without any human participation is gradually increasing. During the move from the "mass-scale economy" to the "variety economy," the United States' comparative advantages will grow, because the American TNC's are making serious progress in the production of highly specialized items with the greatest scientific input. For this reason, the tendency toward more balanced foreign trade is likely to become the prevailing tendency in the next few years.

Footnotes

1. S.Yu. Medvedkov and Yu.A. Sergeyev, "Mezhdunarodnyy marketing amerikanskoy tekhnologii" [International Marketing of American Technology], Moscow, 1985, p 29.
 2. MEIMO, 1985, No 7, p 28.
 3. BUSINESS WEEK, 29 February 1988, p 50.
 4. SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1986, No 12, p 112.
 5. In addition to the previously mentioned products of the engineering industry, the category also includes some products of the chemical and pharmaceutical industries.
 6. BUSINESS WEEK, 6 June 1988, p 48.
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BOOK REVIEWS

Rand Corporation Interpretation of Balance of Power
904K0005G Moscow SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA in Russian No 1, Jan 90 (signed to press 22 Dec 89) pp 96-98

[Review by A.A. Kokoshin of book "Next Moves. An Arms Control Agenda for the 1990's" by Edward L. Warner and David A. Ochmanek, New York, Council on Foreign Relations, 1989, xi + 163 pages]

[Text] This book was published under the auspices of a well-known non-governmental organization in the United States—the Council on Foreign Relations—which held four special seminars to assist the authors. The seminars were chaired by former U.S. Secretary of Defense Harold Brown, who had once worked as a physicist. Prominent experts on international affairs, especially military policy, presented speeches and reports.

The authors discuss several topics: the talks on the limitation of strategic offensive arms; the problems connected with the limitation of strategic defensive arms—the observance of the ABM Treaty; the issues of

reducing and separating conventional forces in Europe; and the limitation and prohibition of nuclear tests, the prohibition and elimination of chemical weapons, and the prohibition, limitation, and elimination of antisatellite weapons.

E. Warner and D. Ochmanek try to analyze these topics within the context of the overall political situation in international relations, in the United States, and in the USSR. They admit that, "without any doubt, Mr. Gorbachev and his colleagues have decided on a new Soviet policy line in the sphere of defense and arms control." They also say, however, that there is still a fear in the West that the new thinking in defense and foreign policy is nothing more than a clever tactic designed to secure the "traditional Soviet expansionist goals" (p 15).

Although the authors cautiously express disagreement with this fear, they regrettably subscribe to a point of view which is extremely popular in the political circles of Western governments even though it conflicts with the facts. "There is still the danger," they write, "that the Soviets, who are much more dynamic and flexible today than they were in the past, will use the arms control talks and the public diplomacy connected with them to undermine the unity of the Western alliance and weaken Western military strength in relation to the Soviet Union and the Warsaw Pact" (p 16).

According to Warner and Ochmanek, the Strategic Arms Reduction Talks (START) are still the central element of the process of arms limitation and of disarmament as a whole.

The authors feel that the purpose of the limitation and reduction of strategic nuclear arms is the reduction of the risk of war through the reinforcement of strategic stability. The talks should lead to agreements in which "both sides will be able to guarantee their own security at equal but lower levels of strength" (p 18). They justifiably list the absence of the ability of any side to deliver a disarming first (or preemptive) strike as one of the main conditions of strategic stability. They also add the absence of the ability of any side to radically change the balance of power in its own favor with a first strike (p 20). These criteria are now quite popular in the West. Many Soviet civilian and military experts share this point of view.

In a consideration of various reduction options, the authors present several models with graphic depictions of their findings. The use of these models is now an integral part of any serious research.

Evaluating the prospects for the conclusion of a new agreement on the limitation and reduction of strategic offensive arms, the authors point out the fact that if the formula worked out by the two sides under the Reagan administration is taken as the basis, the reduction will be from 25 to 30 percent instead of 50 percent. Nevertheless, this will be from 40 to 50 percent less than the strategic offensive arms that might have been deployed by the middle of the 1990's without agreements on the

limitation of strategic forces (p 24). These estimates are close to the ones listed in, for example, the research projects of the Department of Politico-Military Research of the Institute of U.S. and Canadian Studies, USSR Academy of Sciences.

The authors describe the problems which were not solved during the talks on the limitation of strategic offensive arms in detail and suggest possible solutions, including solutions to a problem as complex as the long-range nuclear sea-launched cruise missiles (SLCM). But the complete prohibition of this type of weapon, even if it might be desirable, would be impossible because, as the authors write, the inspection of nuclear warhead storage facilities is not envisaged in the proposed general agreement on the reduction of strategic offensive arms (p 38). It would be difficult to agree with this, because Soviet and American researchers have cogently demonstrated that inspections of the SLCM loading procedure and of their presence on board would be enough to constitute a system for the verification of a relatively high degree of readiness.

When we examine the authors' conclusions with regard to the reduction of armed forces and conventional arms in Europe, we must remember that the authors assessed these reductions before the Vienna talks began. For this reason, we should concentrate not on their analysis of the actual negotiating positions of the sides prior to the start of the talks, but on the analysis of the political and military-strategic factors influencing the talks.

The authors express the sound opinion that the USSR's desire to begin new talks on conventional armed forces in Europe was evident in spring 1986. After examining the message of the Budapest session of the Warsaw Pact Political Consultative Commission (June 1986), however, they provide a biased interpretation by virtually omitting the second half of the message (p 98). It was in the second part, after all, that the basic conceptual premises of the goals of the new talks proposed by the Warsaw Pact were formulated—the reinforcement of strategic stability by reducing the probability of surprise attacks and the ability to conduct offensive operations on both sides. According to the authors, this major aspect of the Soviet proposals, which was aimed not only at a reduction of the numerical strength of the opposing Warsaw Pact and NATO forces, but also at radical changes in their structure and composition, did not come into being until 1987 or 1988.

Warner and Ochmanek present a relatively compact and concise analysis of the distinctive features of the balance of Warsaw Pact and NATO forces in Europe. As for the quantitative side of these assessments, here they use the data of the International Institute for Strategic Studies in London and the estimates of such prominent American experts as F. Karber, J. Epstein, J. Thompson, and several others, most of whom are already known to Soviet experts and to an even broader group of readers.

In addition, however, Warner and Ochmanek have their own interpretation of the nuances of the balance of

power, and this is extremely important in elucidating their point of view. They direct attention to the "military commander's typically conservative estimates of the adequacy of his own forces." Quite often, the commander is well aware of their hidden shortcomings: the unreliability of equipment, the absence of the necessary reserves, the vulnerability of command, control, and communication systems, the inadequate combat training of units, and so forth, but he usually does not know enough about his opponent's problems, and this forces him to exaggerate the latter's capabilities (p 103). A more important factor contributing to the uncertainty of these assessments, as Warner and Ochmanek correctly point out, is the "extremely complex nature of modern warfare" (p 103). These aspects have to be left out of negotiations to a considerable extent, although they are always on the minds of many analysts in both countries.

In their examination of the operating strategies of the sides, the authors regrettably do not write about the offensive nature of the American Army's concept of the "air-land battle" and the "basic aerospace doctrine" of the U.S. Air Force, which is naturally a matter of serious concern to the USSR and our Warsaw Pact allies. They only mention the operating strategies of NATO, which have a less clearly defined offensive nature than the U.S. concepts in question.

The authors obviously did not pay enough attention to the transformation of USSR military strategy, the revision of which began back in 1986-1987, when the conceptual premise of "reasonable sufficiency" became a new operating strategy.

The book by Warner and Ochmanek contains many interesting observations on several other aspects of arms limitation and disarmament. In the authors' opinion, for example, the complete prohibition of nuclear tests might limit the development of new weapons systems, but will not stop it (because new systems with new carriers can use already developed warheads); the development of exotic nuclear weapons, such as x-ray lasers or microwave weapons, on the other hand, would probably be stopped.

Each year at least a few dozen books by professional writers on politico-military issues and on arms control and disarmament are published in the United States. Why are we focusing attention on this book? Primarily because this is a serious work, a sound study covering all of the basic spheres of arms limitation and disarmament with the use of many different sources of information. Besides this, the book was published, as mentioned above, by one of the most prominent and most influential organizations of the U.S. ruling elite dealing with foreign and military policy issues. Finally, it is important because it was compiled by two leading researchers from the RAND Corporation, a renowned authority in politico-military and military-industrial circles.

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00000000 Moscow SSHA: EKONOMIKA, POLITIKA,
IDEOLOGIYA in Russian No 1, Jan 90 (signed to press
22 Dec 89) pp 1-2

People and Economics (V.B. Supyan) pp 5-12

Excerpts from Speech by Vice-President D. Quayle . p 40

James Baker on Perestroika in the USSR pp 42-53

Report on "Delusion and Disaster" by Robert McNa-
mara (V.A. Vasilyev) p 53

About Canada and a Few Words About Us (L.A.
Bagramov) pp 59-66

UN Center Report on TNC Strategy in Developing
Countries (N.F. Kurnikova) pp 67-71

More About Lend-Lease (I.P. Lebedev) pp 71-75

Political Culture and Leadership in Soviet Russia. From
Lenin to Gorbachev (Robert Tucker) pp 76-85

Zvorykin's Iconoscope (T.V. Belova) pp 86-89

U.S. Technological Trumps (Betsy Carpenter) . pp 89-91

Self-Destruct Plastic p 91

Whistleblower Protection Act (T.A. Shackleina) ... pp 92-95

Review of "The Radical Renewal. The Politics of Ideas
in Modern America" by Norman Birnbaum (A.N.
Darchiyev) pp 98-101

Pierre Trudeau (S.Yu. Danilov) pp 102-110

Alabama (L.V. Smirnyagin) pp 111-117

Cinema and the Viewer (A.L. Fedorov) pp 118-124

Movie Stars: Performance Index (Ye P.) pp 125-127

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